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(71) Applicant *(for all designated States except US)*: VALUE MEDIA MANAGEMENT INC. [CA/CA]; 1200 Chomedey Blvd., Suite 410, Laval, Quebec H7V 3Z3 (CA).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: VILLENEUVE, Sylvain [CA/CA]; 147 Sarah Garth, Blainville, Quebec J7C 4T7 (CA).

(74) Agent: DEETH WILLIAMS WALL LLP; National Bank Building, Suite 400, 150 York Street, Toronto, Ontario M5H 3S5 (CA).

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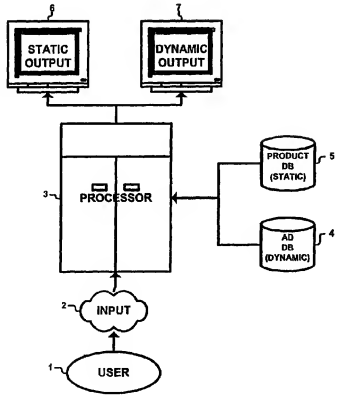
(54) Title: METHOD AND SYSTEM FOR PRESENTING INFORMATION THROUGH AN INTERACTIVE VIEWING UNIT



(57) Abstract: In order to provide consumers (1) with both factual product information and promotional messages related to products, a system and method is provided such that two types of information (4, 5) are displayed through an interactive consumer viewing unit (6, 7), which is directly accessible to consumers at the point of product selection in a retail store. Consumers can access information about a specific product through the use of a scanner, while also being presented with other advertising or public service content. The information can be delivered in the consumer's choice of language.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

METHOD AND SYSTEM FOR PRESENTING INFORMATION THROUGH AN INTERACTIVE VIEWING UNIT

FIELD OF THE INVENTION

The present invention relates to a method of informing consumers while assisting their purchasing choices, and more particularly to a method of delivering product information to consumers with advertising content.

BACKGROUND OF THE INVENTION

Consumers today are faced with an unprecedented number and complexity of purchasing choices. Consumers have a need for an accurate and convenient source of product information. Such information is currently available to consumers through advertising, through descriptions in magazine or newspaper articles, through television programming, and through the world wide web.

Product information is not generally available to consumers where it is most useful to them – in the retail environment – at the point of selecting a product from a store shelf. Typically, the only source of information about a product in the store is the store clerk or salesperson. Consumers cannot consistently expect to find a ready, comprehensive and unbiased source of information in the store environment. Furthermore, consumers are often forced to wait for even basic information (such as the price of an item) because such information is only accessible through the clerk or salesperson.

Consumers are constantly exposed to advertising from product marketers. Most of such advertising hits consumers in their homes – through television, newspapers and magazines, and through the world wide web. Advertising also hits consumers on the street in their work and leisure time – through highway billboards, transit advertising, and street-level signs. Such advertising attempts to reach consumers before they

enter the retail store. Therefore, the effect of promotions depends to a great degree on the memory and initiative of the individual consumer. U.S. Pat. No. 5,249,044 to Von Kohorn discloses a system for advertising and dispensing product coupons at remote locations, such as a consumer's home.

Advertising often does not reach consumers when and where they make their purchasing decisions – at the retail level, in the store itself within seconds of making product purchasing decisions. In the prior art, marketers have attempted to reach consumers with advertising at the checkout counter, after the consumer has made a purchasing decision. This technique relies on the assumption that the consumer will return to the store at a later time. U.S. Pat. No. 4,833,308 to Humble discloses a scanner-based information display unit for use at a supermarket checkout.

Also in the prior art, marketers have attempted to reach consumers with in-store product promotions. Such promotions are subject to short time intervals, deal with a limited number of products, and are variable from store-to-store in their effectiveness. Furthermore, such advertising is not typically provided in conjunction with information to educate consumers about products. U.S. Pat. No. 5,392,066 to Fisher and King discloses a satellite-driven computer advertising display located in stores.

Scanners are known to be an efficient and reliable way to read product codes. Their use in the retail environment has previously been restricted to use in scanning a product that has been purchased at the checkout counter. Scanners are also used by store employees to access information about products. Consumers have traditionally been required to deal through store employees to find information about a product. The employee will scan in the product code on behalf of the consumer. Scanners are not generally accessible for use by consumers at their convenience. Where scanners are accessible to consumers, they have been used as a means to

deliver promotional information without providing product information. U.S. Pat. No. 5,918,211 to Sloane discloses a portable bar code scanner which indicates to consumers whether a scanned product has an associated store promotion.

SUMMARY OF THE INVENTION

The present invention has as its primary object the provision of detailed information on selected products to consumers interactively in a retail environment.

A secondary object is the provision of advertising or public service content to consumers in a retail environment.

A further object is the provision of an enhanced method for consumers to access detailed product information in a retail environment through the use of a scanner.

The present invention provides a method and system for presenting information through an interactive viewing unit.

To facilitate an understanding of the terms used herein, the following definitions are provided.

The term "static information" is intended to refer to information that is relatively unchanging over time, such as product information.

The term "dynamic information" is intended to refer to information that is frequently changed, relative to the static information, such as advertising content or public service information.

In accordance with an aspect of the present invention, there is provided a user-actuated product information system. The system comprises a display device and a circuit device. The circuit device receives an input from a user related to a product and presents to the user a static output and a dynamic output on the display device. Each output is proximate to and concurrent to the other output.

In accordance with another aspect of the present invention, there is provided a user-actuated product information system. The system comprises an input device, two databases, a processing device, and first and second display devices. The input device receives an input from a user related to a product. One database contains static product information. The other database contains dynamic information. The processing device is connected to the input device and the databases. The processing device receives the input from the input device. The processing device selects static product information and dynamic information from the databases in response to the input. The processing device then generates a static and a dynamic output. The two display devices receive and present the static output and dynamic output, respectively. The outputs are proximate so that a user can see both the static output and the dynamic outputs easily and, preferably, at the same time. The outputs are concurrent because they overlap in time. One output may start or finish its display at a different time than the other output, but they will both be displayed together concurrently for at least a short period of time. Optionally, the times of display of the outputs can be about the same.

In accordance with an aspect of the present invention, there is provided a user-actuated product information system. The system comprises a display means and a circuit means. The circuit means receives an input from a user related to a product and presents to the user a static output and a dynamic output on the display means. Each output is proximate to and concurrent to the other output.

In accordance with another aspect of the present invention, there is a user-actuated product information system. The system comprises an input means, two databases, a processing means, and a first and second display means. The input means receives an input from a user related to a product. One database contains static product information. The other database contains dynamic information. The processing means is connected to the input means and the databases. The processing means receives the input from the input means. The processing means selects static product information and dynamic information from the databases in response to the input. The processing means then generates a static and a dynamic output. The two display means receive and present the static output and dynamic output, respectively. The two display means may be separate monitors. A single monitor may also include the two display means, such as a split screen, wherein each split portion is a display means.

In an embodiment of the present invention, the system comprises a client-server computer network. The server includes the databases. The client operates remotely from the server and includes the input means, the processing means, and the first and second display means. Preferably, the client-server network is connected by means of a private network.

In an alternative embodiment, the server includes the databases and the processing means. The client includes the input means, and the first and second display means. The client-server network is connected by means of an Internet connection.

In another embodiment of the present invention, the input means includes an optical Universal Product Code scanner. The scanner receives a product-related input from

a user. The input includes a Universal Product Code input. The input is recognized and transmitted by the scanner to the processing means.

In another embodiment of the present invention, the input means includes a keyboard.

In a variation of this embodiment, the keyboard can accept a user selection from a plurality of language options which can be selected by pressing the keys on the keyboard. The language selection is then conveyed to the processing means. The processing means will generate a static output and a dynamic output varied in appearance and content to comport with the language selected.

In a variation of this embodiment, the keyboard can accept a user response to a multiple choice or yes-no question indicated on a display means. The user response is then conveyed to the processing means. The processing means will generate a static output and a dynamic output varied in appearance and content to comport with the user response.

In another embodiment of the present invention, the input means includes a microphone for receiving a voice activated input.

In another embodiment of the present invention, the first and second display means each include a computer monitor connected to the processing means. The monitors define a vertical axis and are tilted about 7° inward, so that they can be viewed simultaneously by the user. The monitors may also be coplanar or tilted 7° outward and away from each other.

In an embodiment of the present invention, the static output comprises product information.

In an embodiment of the present invention, the dynamic output comprises advertising content.

In another embodiment of the present invention, the dynamic output comprises public service information. In a variation on this embodiment, the public service information is health information.

In an embodiment of the present invention, the input means, and first and second display means are located in a retail environment at the point of consumer product selection (i.e. proximate to a product). In a variation on this embodiment, the retail environment includes a pharmacy.

In an embodiment of the present invention, the system further comprises a screen saver database containing time-scheduled dynamic output content. The content is received by and presented on the first and second display means in a timed sequence determined by the screen saver database. The sequence is activated within a pre-determined activation period after the most recent input and in the absence of a new input. The sequence is de-activated immediately upon a new input by a user. The activation period is variable and will be determined contingent on study of consumer purchasing behaviour relative to the particular market and type of product.

In an embodiment of the present invention, the system further comprises a statistical database contained on the server. The database stores input signals received by the input means, which transmits them to the database.

In a variation on this embodiment, the statistical database is actively updateable via a live connection between the client and the server.

In a further variation on this embodiment, the statistical database can be queried by a remote user. The remote user can connect into the server and transmit a request to the server for any of a plurality of aggregated statistical options and reporting options.

In accordance with another aspect of the present invention, there is provided a method of presenting a user with two types of information. The method comprises three steps

inputting information related to a product;

receiving the information related to the product; and

presenting to the user a static output and a dynamic output in response to the information related to the product.

In accordance with another aspect of the present invention, there is provided a method of presenting a user with two types of information on a display means. The method comprises seven steps

inputting information related to a product;

transmitting the information related to the product to a processing means;

comparing the information related to the product to databases of static product information and dynamic information;

selecting static product information and dynamic information from the databases in response to the input;

generating a static output and a dynamic output from the static product information and dynamic information selected from the databases;

transmitting the static output and dynamic output to the display means; and

presenting the static output and dynamic output proximate and concurrent to one another on a first and second display means, respectively.

In an embodiment of the present invention, the method further comprises displaying a time-scheduled sequence of dynamic output within a pre-determined activation period after the input means is no longer in use. The sequence is activated by a screen saver database containing time-scheduled sequence data. The sequence ceases to display when a new input is received, de-activating the screen saver database.

In an embodiment of the present invention, the method further comprises generating a statistical database of product input signals from the input means.

"Product" can also include information, such as coupons, pamphlets, brochures and other items relating to products. The term also includes products that relate to services that may be purchased.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention will be described in relation to the drawings in which

FIG. 1 is a block diagram of a first embodiment of the present invention.

FIG. 2 is a block diagram of a second embodiment of the present invention.

FIG. 3 is a block diagram of a third embodiment of the present invention.

FIG. 4 is a block diagram of a fourth embodiment of the present invention.

FIG. 5 is a block diagram of a fifth embodiment of the present invention.

FIG. 6(a) is a perspective view of a display means and an input means.

FIG. 6(b) is a perspective view of an input means.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows a user 1 input 2 which is transmitted to a central processor 3. In response to the input, the processor calls information from a static database 5 and other information from a dynamic database 4. These two types of information are then sent by the processor to two output displays of a display means for static 6 and dynamic output 7, respectively. Preferably, the processor is a computer. Preferably, the two output displays are each shown on its own screens, each screen residing on a separate computer monitor, i.e. the display means. Alternatively, the display means may be a single monitor with two screens, or a single screen split into two regions, each output display presented in its own region. Further embodiments of the invention include two display means, each a separate monitor with its own output display. Preferably, the information includes a combination of words and images. The information may also include sound. In one variation, the output displays are enabled for holographic output, such as a "virtual pharmacist".

In one preferred embodiment, the monitors define a vertical axis and tilt about 7° inward, so that they can be viewed simultaneously by the user. In other preferred embodiments, the monitors are coplanar or alternatively tilted 7° outward and away from each other.

The static database is so-called because the information contained in it is relatively unchanging over time. By contrast, the dynamic database contains information which is frequently changed. To illustrate, in a preferred embodiment, the static database comprises factual product information, while the dynamic database comprises advertising content, such as a slogan, an image or a corporate logo. In another embodiment, the dynamic database comprises public service content. The information in both databases is pre-determined information.

FIG. 2 shows the same basic system configuration as FIG. 1 with the exception that two forms of input devices are specified. In this embodiment, a scanner 8 is provided to receive input from a user. In a preferred form, the scanner is an optical Universal Product Code scanner responsive to the Universal Product Code symbol on a product. When the symbol is scanned, the signal input is then correlated by the processor to related product information in the static database. At the same time, dynamic content is also retrieved from the dynamic database. The scanner simplifies the input for the user and prevents incorrect user product inputs.

To illustrate, a consumer in a pharmacy can use the scanner to scan in the Universal Product Code from an over-the-counter pain relief medicine bottle. The processor will correlate this Code with a database of static product information. In this example, the database may be a database of standard pharmaceutical information. The consumer will see displayed a detailed summary of one or more of the medicine's ingredients, indications for use, and potential side-effects. At the same time, the processor will have generated another output from the dynamic database which is displayed on a separate display. In this example, the dynamic information presented could be an advertisement for another dosage form of the same pain relief medicine, another brand of pain relief medicine, or a general public safety warning about keeping medicines out of the reach of children.

The embodiment shown in FIG. 2 also provides a keyboard input device 9. This input will preferably receive information from the user such as a choice of language from an array of language choices presented as keys on the keyboard. The language selection is then transmitted to the processor which regulates the static and dynamic output accordingly.

In another variation, the keyboard may also be used as an interactivity tool from which the user may respond to questions posed on either display, such as whether the user is pregnant, in order that the processor may generate specifically-tailored information output by calling related information from the databases.

To illustrate, the same consumer in a pharmacy can use the keyboard to respond to a question such as whether the consumer suffers from angina. The consumer's response on the keyboard will be used by the processor to generate appropriate further output from the static database, and present the output on a display. For example, the next output could be a list of over-the-counter alternatives to treat the symptoms, or a recommendation to seek the advice of a health professional such as a physician or pharmacist.

In an alternative embodiment, in place of a keyboard, a microphone may be provided as an input device. The microphone can receive a voice activated input from the user.

FIG. 3 shows the same basic system configuration as FIGS. 1 and 2 with the exception that the two databases are located remotely from the remainder of the system (on a "server"), which is connected to the processor and remainder of the system (a "client") via a network connection **10**. A means to update **11** these databases actively through the server is also provided. In a preferred embodiment, the network connection is a private network. Alternatively, the processor may be positioned on the server side, wherein user inputs would be processed on the server-side processor as they are entered through the input means, and database information would be delivered from the server databases directly to the display means in real-time through a live Internet connection.

FIG. 4 shows the same networked system configuration as FIG. 3 with the addition of a database **12** of screen saver information on the server. Within a pre-determined period after the last user input and in the absence of a further input, the screen saver database is accessed by the processor. Time-scheduled screen saver content is then transmitted to the static and dynamic output displays. In a preferred embodiment, the screen saver content is a sequence of advertising messages supplied by product manufacturers. The activation period is variable. For example, it may be determined contingent on study of consumer purchasing behaviour relative to the particular market and type of product.

FIG. 5 shows the same system configuration as FIG. 4 with the addition of a database **13** of statistical data. The database is generated by the processor from input signals received from users. In a preferred embodiment, a packet of such statistical data is stored in the processor and delivered to the database upon request over the network connection. The database can then be queried by a remote user **14** to obtain aggregate statistical data and reports.

FIG. 6a shows a perspective view of one embodiment of the display means and input means as these may be positioned in a retail environment. A display means **15** is provided, comprising two proximate outputs **16, 17.** Preferably, the display means is attached by an arm means to a first shelf **19** in a retail environment, proximate to products **18** on the shelf.

An input means is also provided. In the embodiment shown, the input means comprises a mini-keyboard **21** with six keys, as well as a product scanner **22,** which is preferably constructed as one physical unit, which is accessible to the user in a retail environment. As shown, the input means is attached to a second shelf **20** in a retail environment without itself consuming shelf space. Preferably, the first shelf **19**

and second shelf **20** are proximate to each other for easy access by the user. Preferably, the display means and input means define a vertical axis, in which the display means is positioned above the input means.

FIG. 6b shows a detailed perspective view of an embodiment of the input means. In the embodiment shown, the input means comprises a mini-keyboard **23** with six keys, as well as, a product scanner **24**, preferably constructed as one physical unit, which is accessible to the user in a retail environment. In the embodiment shown, the input means is attached to a shelf **22** without itself consuming shelf space.

Alternatively, the display means and input means can be situated on a mobile pedestal means, which can be placed in any location, but which is preferably placed proximate to a shelf of products in a retail environment.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and applications shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention and the appended claims and their equivalents.

All publications, patents and patent applications are incorporated by reference in their entirety to the same extent as if each individual publication, patent or patent application was specifically and individually indicated to be incorporated by reference in its entirety.

What is claimed is:

1. A user actuated product information system, comprising:

a) a display means and ,

b) a circuit means for receiving an input from a user related to a product and presenting to the user a static output and a dynamic output on the display means, wherein each output is proximate to and concurrent with the other output.

2. A user actuated product information system, comprising:

a) an input means for receiving an input from a user related to a product;

b) a database including static product information;

c) a database including dynamic information;

d) a processing means connected to the input means and the databases for

(i) receiving the input from the input means,

(ii) selecting static product information and dynamic information from the databases in response to the input, and

(iii) generating a static output and a dynamic output;

e) a first display means connected to the processing means for

(i) receiving the static output, and

(ii) presenting the static output; and

f) a second display means, proximate to the first display means and connected to the processing means, for

(i) receiving the dynamic output, and

(ii) presenting the dynamic output, wherein the static output and the dynamic output are presented to the user concurrently.

3. The system according to claim 1 or 2, wherein the system comprises a client-server computer network, the client operating remotely from the server and including the display means.

4. The system according to claim 3, wherein the client and the server are connected by a private network.

5. The system according to any of claims 2 to 4, wherein the input means includes an optical Universal Product Code scanner for receiving a product-related input from a user, and the product-related input includes a Universal Product Code input for recognition and transmission by the scanner.

6. The system according to any of claims 2 to 4, wherein the input means includes a keyboard.

7. The system according to any of claims 2 to 4, wherein the input means includes a microphone for receiving a voice activated input.

8. The system according to any of claims 2 to 7, wherein the display means each include a computer monitor connected to the processing means, wherein the computer monitors define an an axis and are tilted about 7° along the vertical axis inward, so that computer monitors they can be viewed simultaneously by the user.

9. The system according to any of claims 6 to 8, wherein the keyboard can accept a user selection from a plurality of language options which can be selected by pressing the keys on the keyboard, which selection is then

conveyed to the processing means used for generating a static output and a dynamic output which are varied in appearance and content to comport with the language selected.

10. The system according to any of claims 6 to 9, wherein the keyboard can accept a user response to a question indicated on a display means, which response is then conveyed to the processing meansused for generating a static output and a dynamic output which are varied in appearance and content to comport with the user response.

11. The system according to any of claims 2 to 10, wherein the static output comprises product information.

12. The system according to any of claims 2 to 11, wherein the dynamic output comprises advertising content.

13. The system according to any of claims 2 to 12, wherein the dynamic output comprises public service information.

14. The system according to claim 13, wherein the public service information comprises health information.

15. The system according to any of claims 2 to 14, wherein the input means and first and second display means are located in a retail environment proximate to the point of consumer product selection.

16. The system according to claim 15, wherein the retail environment includes a pharmacy.

17. A system according to any of claims 1 to 16, wherein the system further comprises a screen saver database of time-scheduled dynamic output content to be received by and presented on the first and second display means in a timed sequence determined by the screen saver database, the sequence being activated within a pre-determined activation period after the most recent input and in the absence of a new input, and the sequence being de-activated immediately upon a new input by a user.

18. A system according to any of claims 1 to 17, wherein the system further comprises a statistical database contained on the server for the storage of input signals received by the input means and transmitted to the statistical database.

19. A system according to claim 18, wherein the statistical database is actively updateable by a live connection between the client and the server.

20. A system according to claim 17 or 18, wherein the statistical database can be queried by a remote user by the remote user connecting into the server and transmitting a request to the server for any of a plurality of aggregated statistical options and reporting options.

21. A method of presenting a user with two types of information on a display means, the method comprising the steps of:

a) inputting information related to a product;

b) receiving the information related to the product; and

c) presenting to the user the two types of information, the two types of information consisting of a static output and a dynamic output in

response to the input related to the product, the outputs being proximate and concurrent to one another.

22. A method of presenting a user with two types of information on a display means, the method comprising the steps of:

a) inputting information related to a product;

b) transmitting the information related to the product to a processing means;

c) comparing the information related to the product to at least one databases of static product information and dynamic information;

d) selecting static product information and dynamic information from the databases in response to the input;

e) generating a static output and a dynamic output from the static product information and dynamic information selected from the databases;

f) transmitting the static output and dynamic output to the display means, respectively; and

g) presenting the static output and dynamic output proximate and concurrent to one another on the display means.

23. The method according to claim 22, wherein the method further comprises displaying a time-scheduled sequence of dynamic output within a pre-determined activation period after the input means is no longer in use, by accessing a screen saver database containing time-scheduled sequence data, and ceasing to display the sequence when a new input is received, by de-activating the screen saver database.

24. The method according to claim 22, wherein the method further comprises generating a statistical database of product input signals from the input means.

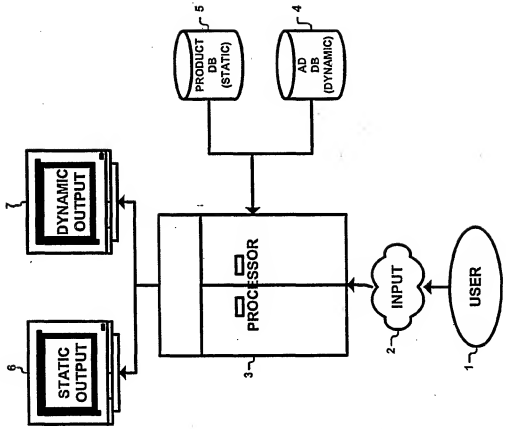


FIG. 1

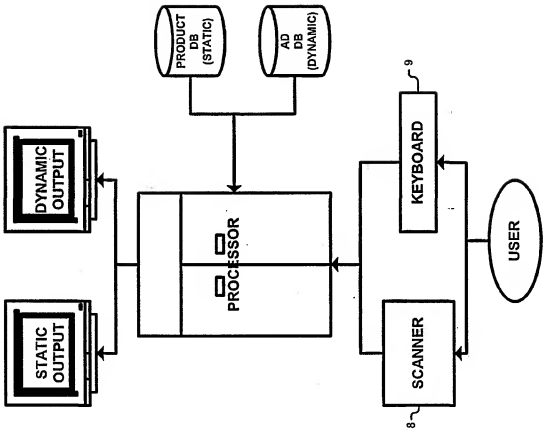


FIG. 2

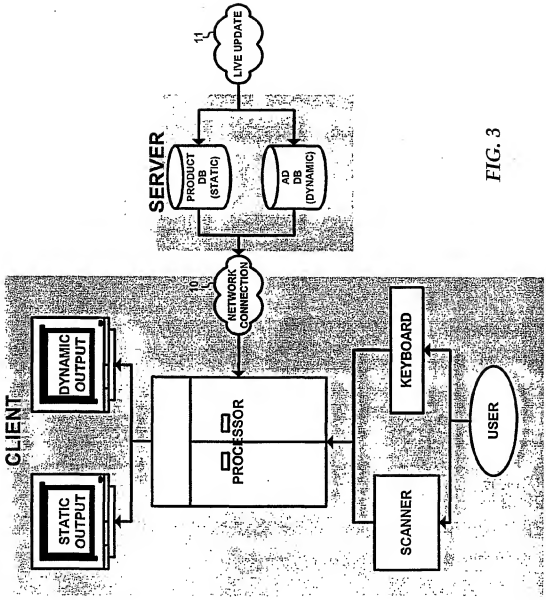


FIG. 3

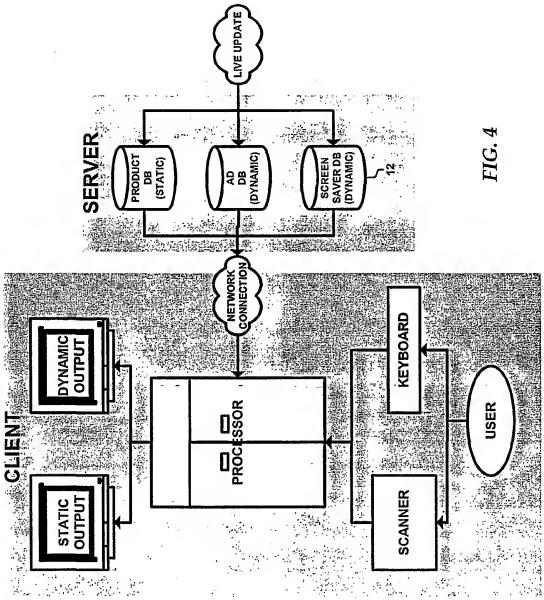


FIG. 4

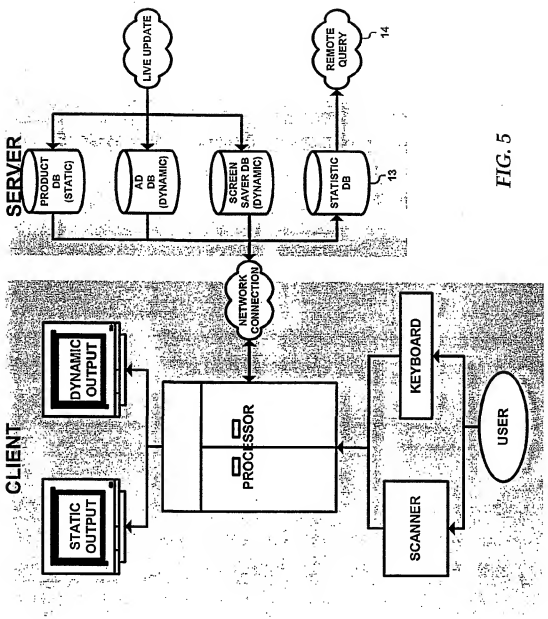
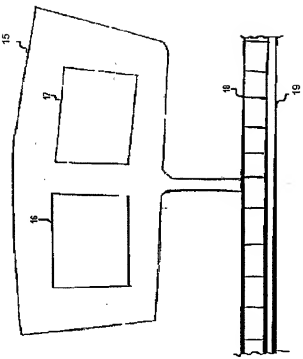


FIG. 5



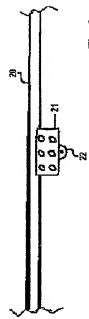


Fig. 6a

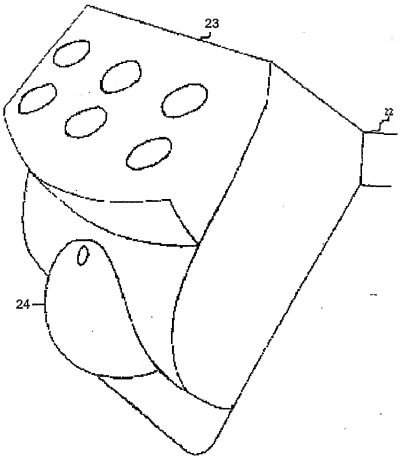


Fig. 6B

INTERNATIONAL SEARCH REPORT

In al Application No
PCT/CA 01/00113

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/60 G09F23/06 G09F27/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 857 175 A (DAY LARRY J ET AL) 5 January 1999 (1999-01-05) column 5, line 19 - line 55 column 9, line 29 -column 10, line 30 claim 1 ---	1-6,8, 10-12, 18-21
X	WO 00 03328 A (MOTOROLA INC) 20 January 2000 (2000-01-20) page 5, line 11 - line 33 page 10, line 15 - line 37 figures 1,7,10 ---	1-6, 10-12, 17-20
X	FR 2 739 241 A (NOYON COLONNA CEDRIC) 28 March 1997 (1997-03-28) page 6, line 26 - line 35 figure 1 ------	1,7

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 April 2001	19/04/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Pantoja Conde, A

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INTERNATIONAL SEARCH REPORT

ormation on patent family members

Ir onal Application No
PCT/CA 01/00113

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5857175	A	05-01-1999	NONE	
WO 0003328	A	20-01-2000	NONE	
FR 2739241	A	28-03-1997	NONE	

Form PCT/ISA/210 (patent family annex) (July 1992)